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# (12) United States Patent Astier et al.

# (54) PILLAR ARRAY STRUCTURE WITH UNIFORM AND HIGH ASPECT RATIO

NANOMETER GAPS

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#### (57) ABSTRACT

A technique related to sorting entities is provided. An inlet is configured to receive a fluid, and an outlet is configured to exit the fluid. A nanopillar array, connected to the inlet and the outlet, is configured to allow the fluid to flow from the inlet to the outlet. The nanopillar array includes nanopillars arranged to separate entities by size. The nanopillars are arranged to have a gap separating one nanopillar from another nanopillar. The gap is constructed to be in a nanoscale range.

# 8 Claims, 14 Drawing Sheets

